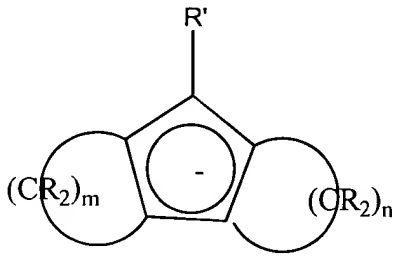
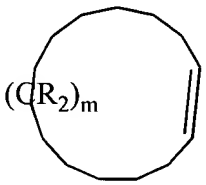
--23. (Amended) A process for the preparation of a cyclopentadienylic compound of formula (II):



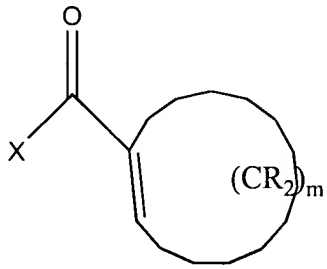
(II)

which comprises reacting, in an acid medium, a cycloalkene of formula (V):



(V)

with a 1-cycloalkene derivative of formula (VI):



(VI)

wherein n and m, the same or different from each other, are integers from 2 to 6 inclusive,

the R substituents, the same or different from each other, are hydrogen atoms, C_1-C_{20} alkyl radicals, C_3-C_{20} cycloalkyl radicals, C_2-C_{20} alkenyl radicals, C_6-C_{20} aryl radicals, C_7-C_{20} alkylaryl radicals, C_7-C_{20} arylalkyl radicals, wherein two adjacent R substituents may form a C_5-C_8 cycle,

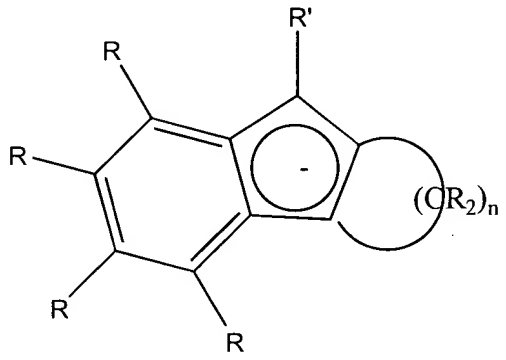
the R' substituents being defined in the same way as the R substituents or as a group capable of forming part of a divalent bridging group of formula $(YR_p)_q$, Y being

selected from the group consisting of C, Si, Ge, N or P, p being 1 when Y is N or P, and p being 2 when Y is C, Si, or Ge, q being selected from 1, 2, or 3, and

and X being selected from the group consisting of OH, OR, O(CO)R, Cl, or Br.--

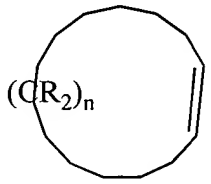
--24. The process according to claim 23, wherein at least one R substituent contains at least one atom selected from the group consisting of Si or Ge.--

-- 25. A process for the preparation of a cyclopentadienylic compound of formula (III):



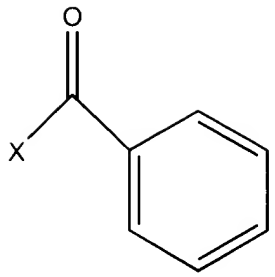
(III)

which comprises reacting, in an acid medium, a cycloalkene of formula (V'):



(V')

with a benzene derivative of formula (VIII):



(VIII)

wherein n is an integers from 2 to 6 inclusive,

the R substituents, the same or different from each other, are hydrogen atoms, C_1-C_{20} alkyl radicals, C_3-C_{20} cycloalkyl radicals, C_2-C_{20} alkenyl radicals, C_6-C_{20} aryl radicals, C_7-C_{20} alkylaryl radicals, C_7-C_{20} arylalkyl radicals, wherein two adjacent R substituents may form a C_5-C_8 cycle,

the R' substituents being defined in the same way as the R substituents or as a group capable of forming part of a divalent bridging group of formula $(YR'_p)_q$, Y being selected from the group consisting of C, Si, Ge, N or P, p being 1 when Y is N or P, and p being 2 when Y is C, Si, or Ge, q being selected from 1, 2, or 3, and

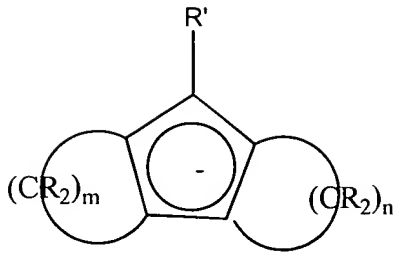
and X being selected from the group consisting of OH, OR, O(CO)R, Cl, or Br.--

--26. The process according to claim 25, wherein at least one R substituent contains at least one atom selected from the group consisting of Si or Ge.—

--27. A cyclopentadiene ligand of formula of formula (XI):

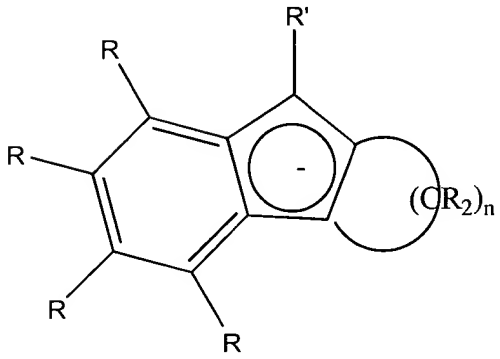
$$(YR'_p)_q(Cp)(Cp') \qquad (XI)$$

wherein Cp is a group selected from the group consisting of groups of formula (II):



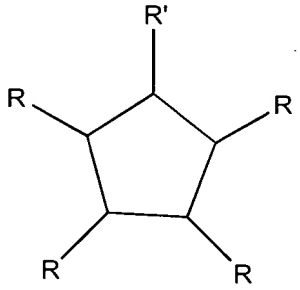
(II)

or (III):



(III)

Cp' is a group selected from the group consisting groups of formula (II), (III), or (IV):



(IV)

wherein n and m, the same or different from each other, are integers from 2 to 6 inclusive,

the R substituents, the same or different from each other, are hydrogen atoms, C_1-C_{20} alkyl radicals, C_3-C_{20} cycloalkyl radicals, C_2-C_{20} alkenyl radicals, C_6-C_{20} aryl radicals, C_7-C_{20} alkylaryl radicals, C_7-C_{20} arylalkyl radicals, wherein two adjacent R substituents may form a C_5-C_8 cycle,

the R' substituents being defined in the same way as the R substituents or as a group capable of forming part of the divalent bridging group of formula $(YR_p)_q$,,

Y being selected from the group consisting of C, Si, Ge, N or P, p being 1 when Y is N or P, and p being 2 when Y is C, Si, or Ge, q being selected from 1, 2, or 3, and

and X being selected from the group consisting of OH, OR, O(CO)R, Cl, or Br.--

--28. A catalyst for the polymerization of olefins comprising the reaction product between:

(A) a metallocene compound of formula (I),

$$(YR_p)_q(Cp)(Cp')MX'_2 \qquad (I)$$

wherein $(YR_p)_q$, (Cp), and (Cp') have the meanings given above in claim 27, except that q can also be 0, M is a transition metal selected from the group consisting of Ti, Zr or Hf, and the X' substituents, the same or different from each other, are selected from the group consisting of halogen atoms, -OH, -SH, -R, -OR, -SR, $-NR_2$, or PR_2, R having the meaning given above,

(B) an aluminoxane, optionally in admixture with a organo-aluminium compound of formula AlR^4_3 or $Al_2R^4_6$, in which the substituents R^4, same or different from each other, are defined as above or one or more compounds capable of forming an alkyl metallocene cation.--

--29. The catalyst of claim 28, wherein component (A) is the reaction product of metallocence (I) with a organo-aluminino compound of formula AlR^4_3 or $Al_2R^4_6$, in which the substituents R^4, same or different from each other are R^1 or halogen.--

--30. A catalyst according to claim 28, wherein the metallocene compound of formula (I) is selected from dimethylsilanediyl-bis (2, 3-cyclotetramethyleneinden-1-yl) zirconium dichloride, dimethylsilanediyl-bis (octahydrofluorenyl) zirconium dichloride, isopropyliden(cyclopentadienyl)(2, 3-cyclotetramethyleneinden-1-yl) zirconium dichloride, and isopropyliden(cyclopentadienyl)(2, 3-cyclotetramethyleneinden-1-yl) hafnium dichloride.—

--31. The catalyst according to claim 28, wherein the alumoxane is selected from methylalumoxane and isobutylalumoxane.--

--32. A process for the polymerization of olefins comprising the polymerization reaction of at least one olefinic monomer in the presence of the catalyst of claim 28.--

--33. The process according to claim 32, wherein ethylene is copolymerized with at least one higher olefin.--

--34. The process according to claim 33, wherein the product is an LLDPE copolymer.--

--35. The process according to claim 33, wherein the product is an elastomeric copolymer of ethylene with alpha-olefins of the formula CH_2=CHR, wherein R is an alkyl radical having from 1 to 10 carbon atoms.--

--36. The process according to claim 35, wherein the product is an elastomeric copolymer of ethylene with alpha-olefins of the formula CH_2=CHR, wherein R is an alkyl radical having from 1 to 10 carbon atoms, and wherein the product further contains a small proportion of units deriving from polyenes--

--37. The process according the claim 36, wherein the proportion of units deriving from polyenes is from 0.1 to 20% by weight.--

--38. A process for the oligomerization of propylene, the process comprising oligomerizing propylene in the presence of the catalyst of claim 28.--